

REMARKS

Reconsideration of this application and entry of this amendment is requested on the ground that the application is in condition for allowance.

Paragraph 0012, lines 12 and 13, has been amended to correct the reference numbers for plate 18 and tubes 21. These reference numbers conform to the description of plate 18 and tubes 21 in paragraph 0012. New matter has not been added to paragraph 0012.

The allowance of Claims 5, 10, 11 and 16 to 22 is noted and appreciated.

Claim 1 has been amended to include first and second means to connect the top and bottom rails to the posts. These amendments support the "connected to" terms of the claims.

Claim 1 has also been amended to more particularly define the first and second spacers as plates extended along the length of the rails and located in engagement with the rails. The plates have laterally spaced and centered holes for the fasteners that secure the plates and ball knobs to the rails. The plate disclosed in the specification and drawing is a flat linear bar. The holes predetermine the lateral spacing between the spindles. The spacing of the spindles is perfect and centered. The work person does not measure and cut parts to provide selected lateral spacing between adjacent spindles. The plates and ball knobs save time, labor and costs in the process of assembly of a railing. The specification describes the tubes as retained with ball knobs in engagement with the top and bottom rails 11 and 12 to space the ends of the tubes from the rails. Each plate has a row of laterally spaced holes that register the lateral space between the spindles shown as tubes 21. *Page 7, ¶ 0012, lines 9-13.*

Claims 2, 3 and 4 have been cancelled as the subject matter of these claims is included in Claim 1.

Claims 6, 8 and 9 depend upon Claim 1. These claims define the tight fit engagement of

the ball knobs in the ends of the tubes. Claim 9 includes the circumferential ribs on the convex side walls of the knobs that are located in bias contact with the inside wall of the spindle. The ribs compensate for dimensional tolerances of the inside walls of the spindles and ensure a tight fit engagement between the knobs and the spindles. The allowance of Claims 6, 8 and 9 along with Claim 1 is requested.

Claim 7 depends upon Claim 6. This claim further defines the inside walls of the spindle as having inwardly directed projections engageable with the knobs to inhibit rotation of the spindles relative to the knobs. The allowance of Claim 7 along with Claims 1 and 6 is requested.

Claim 12 has been amended to more particularly define the first and second spaces as plates extended along the length of the rails and located in engagement with the rails. The plates have laterally spaced holes for the fasteners that secure the plates and ball knobs to the rails. The holes in the plates fix the lateral spacing between adjacent spindles. The remarks concerning the plates, holes in the plates and the fasteners that secure the ball knobs and plate to the rails outlined with regard to Claim 1 are included with respect to Claim 12. The allowance of Claim 12 is requested.

Claims 13, 14 and 15 have been cancelled as the subject matter of these claims has been incorporated into Claim 12.

Claim 23, 31 and 40 have been amended to define the continuous annular rib as extended completely around the side wall of the body. The specification describes the body 32 of the knob 23 as having a plurality of spaced circumferential outwardly extended continuous ribs 37, 38, 39 and 40 that extend around the mid-section of the side wall 36 of the body 32. *Pages 8 and 9, ¶ 0016, lines 5 to 7.* The tube 21 when located on knob 23 deforms ribs 37-40 to provide annular elastic seals compressed circumferentially against the inside wall of tube 21. These annular seals prevent moisture, water, dust and dirt from entering the inside of tube 21. *Page 9, ¶ 0016, lines*

17 to 19. The tubes are mounted on the ball knobs without center punching the tubes to the ball knobs or impinching the ends of the tubes around the ball knobs. The prior art including *Roth* does not disclose this knob.

Claims 25, 26, 28 and 30 depend on Claim 23. These claims further define the body of the ball knob. Claim 26 defines the body as having flat top and bottom surfaces with the hole extended between these surfaces. The fastener retains the bottom flat surface in surface engagement with the spacer. Claim 30 defines the body as having an outwardly curved annular portion extended downwardly from the top surface to the annular ribs. The allowance of Claims 25, 26, 28 and 30 along with Claim 23 is requested.

Claims 24, 27 and 29 have been cancelled as the subject matter of these claims are incorporated into Claim 23.

Claim 31 has been amended to define applicant's ball knob for anchoring a tube having an inside wall to a support. The knob has a spherical body with an annular convex curved side wall with a plurality of laterally spaced and outwardly extended continuous annular ribs adapted to be located in biasing engagement with the inside wall of the tube. The ribs extend completely around the side wall of the body.

Claims 32, 33, 34, 35 and 38 depend upon Claim 31. These claims more particularly define the shape of the body including a flat circular top surface and a flat circular bottom surface. The allowance of Claims 32 to 35 and 38 with Claim 31 is requested.

Claim 40 defines applicant's ball knob as having a spherical body with generally flat bottom surfaces adapted to be located in surface engagement with a support. The body also has a continuous annular convex curved side wall adapted to be located in tight frictional engagement with the inside wall of the tube. The rib extends completely around the side wall of the body. A hole extends through the body between the top and bottom surfaces for accommodating a

fastener to secure the knob to the support and retain the bottom surface in surface engagement with the support.

Claims 41 and 42 depend upon Claim 40. These claims include the annular ribs on the convex curved side wall of the body adapted to engage the inside wall of the tube. The allowance of Claims 41 and 42 along with Claim 40 is requested.

Reconsideration of the disclosure and teachings of *Roth* is requested in view of the amended claims. *Roth* discloses four embodiments of a rail connection. The first embodiment, shown in Figures 1 to 3, has a cylindrical block 11 having a threaded hole 12. Screw 13 extended through a hole in rail 18 secures block 11 to rail 12. The sleeve connecting member 15 connects bar 16 to block 11. There is no spacer between cylindrical block 11 and rail 18. Figure 1 shows and describes "small connecting members 10 [which] are inserted between the rails and balusters." *Column 2, lines 55 to 57.* There is no disclosure in Figure 1 of spacers between ball knobs and the rails 8 and 9. The members 10 are sleeve connecting members as shown for example in Figures 2 and 3. There is no disclosure in *Roth* of spacer plates having holes for laterally spacing adjacent spindles secured to the rails with fasteners that also connect the ball knobs to the rails as defined in Claims 1 and 12.

Figure 4 discloses a modification of connecting the cylindrical block 11 to tubular rod 21. The flat ends of block 11 and the end of rod 21 are "center punched" at 14 to allow swinging of the member 15 to various angles. *Column 3, lines 1 to 5.* A center punch is used to press opposite portions of rod 21 into block 11. The punched portions 14 define the axis around which the member 15 swings. The punched portions 14 do not extend completely around the cylindrical block or even across the diameter of the ends of the cylindrical block 11. A suggestion for continuous annular ribs completely around ball knobs as defined in Claims 23, 31 and 40 is not within the teachings of *Roth*.

Figures 5 and 6 show the third and fourth embodiments of the *Roth* rail connection.

The globular connection blocks, shown in Figures 5 and 6 of *Roth*, do not have flat bottom surfaces. All outside surfaces of these blocks 23 and 23a are convex curved. Block 23, shown in Figure 23, has a smooth outer spherical surface. There are no ribs on this surface. Figure 6 shows the block 23a and end of tube 22a as having opposite punched portions 14a that allow tube 22a to pivot or swing relative to block 23a. There is no disclosure or suggestion of Applicant's claimed continuous annular ribs completely around the outside wall of a ball knob located in biasing engagement with the inside wall of a tube. Claims 23, 31 and 40 define the ball knob as having a continuous annular rib(s) extended completely around the side wall of the body of the knob.

Hannum in U.S. Patent No. 4,645,598 discloses plastic parts used in a water environment. None of the parts are plastic ball knobs. Claims 25 and 32 are retained in view of the disclosure of the metal globular blocks 23 and 23a. Applicant's plastic ball knobs with plastic ribs allows the ribs to deform into a tight fit with the inside walls of the tubes. The ribs are seals that prevent moisture and dirt from entering the inside spaces of the tubes. Applicant requests that the teaching of *Hannum* be reconsidered as applied to the claims as amended.

Applicant's rail system is a commercial product. Applicant's business brochure and Installation Instructions of record show the railing disclosed and claimed in the application. The commercial utilization of the invention is a favorable factor regarding patentability of the railing and ball knobs.

This amendment is timely in view of the newly applied prior art in the rejection of the claims in the Office action of November 23, 2004.

In view of the above remarks applicant requests entry of the amendment and allowance of
Claims 1, 5 to 12, 16 to 23, 25, 26, 28, 30 to 35, 38 and 40 to 42.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 21, 2004,
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December 21, 2004
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